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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
GRIER, LAURA A	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/120,973	AMIR, NEHEMIA	
	Examiner	Art Unit	
	Laura A Grier	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7,10,11,17-21,23 and 28-54* is/are pending in the application.

4a) Of the above claim(s) *28-54* is/are withdrawn from consideration.

5)☒ Claim(s) *17-20* is/are allowed.

6)☒ Claim(s) *7, 10,11, 21, 23,* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The indicated allowability of claims 7, 10, 21 and 23 is withdrawn.

Claim Objections

2. Claim 21 objected to because of the following informalities: line 12, recites "output_of", -- output of -- is the suggested correction.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 7, 10, 11 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bourmeyster et al., U. S. Patent No. 5680393 in view of Bourk, U. S. Patent No. 5182774.

Regarding claim 7, Bourmeyster et al. (herein, Mourmeyster) discloses a device for suppressing background noise in a voice signal and corresponding system with echo cancellation. Mourmeyster's disclosure (figures 1-4, col. 4, lines 4-13, col. 7, lines 41-col. 8, lines 1-4) comprises a microphone (2), which reads an input transducer; a loudspeaker (4), which reads on an output actuator; a FD (frequency domain) processor (100), which reads on a correction means, wherein the FD processor includes a filter indicates the calibration means; a TD (time domain) processor, which reads on the echo cancellation means; and the microphone

and loudspeaker are in close proximity to each other. However, Mourmeyster fails to specifically disclose and anti-noise means.

Regarding the anti-noise means, in a similar field of endeavor, Bourk discloses noise cancellation which includes an anti-noise means via an inverter amplifier (col. 5, lines 52-59 and figure 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Mourmeyster by implementing a anti-noise means via an inverter amplifier for the purpose of inverting the noise signal of the input signal and generate signal opposite in phase to ensure optimal noise suppression as desired.

Regarding claim 10, Bourmeyster discloses a device for suppressing background noise in a voice signal and corresponding system with echo cancellation. Mourmeyster's disclosure (figures 1-4, col. 4, lines 4-13, col. 7, lines 41-col. 8, lines 1-4) comprises a microphone (2), which reads an input transducer; a loudspeaker (4), which reads on an output actuator; a FD (frequency domain) processor (100), which reads on a correction means, wherein the FD processor includes a filter indicates the calibration means; a TD (time domain) processor, which reads on the echo cancellation means and inherently reads on the structure of the echo cancellation means as evident by the FIR used in the TD processor; and the microphone and loudspeaker are in close proximity to each other. However, Mourmeyster fails to specifically disclose and anti-noise means.

Regarding the anti-noise means, in a similar field of endeavor, Bourk discloses noise cancellation which includes an anti-noise means via an inverter amplifier (col. 5, lines 52-59 and figure 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Mourmeyster by implementing a anti-noise means via an inverter amplifier for the purpose of inverting the noise signal of the input signal and generate signal opposite in phase to ensure optimal noise suppression as desired.

Regarding claim 11, Bourmeyster discloses a device for suppressing background noise in a voice signal and corresponding system with echo cancellation. Mourmeyster's disclosure (figures 1-4, col. 4, lines 4-13, col. 7, lines 41-col. 8, lines 1-4) comprises a microphone (2), which reads an input transducer; a loudspeaker (4), which reads on an output actuator; a FD (frequency domain) processor (100), which reads on a correction means; a TD (time domain) processor, which reads on the echo cancellation means; and the microphone and loudspeaker are in close proximity to each other. However, Mourmeyster fails to specifically disclose and anti-noise means.

Regarding the anti-noise means, in a similar field of endeavor, Bourk discloses noise cancellation which includes an anti-noise means via an inverter amplifier (col. 5, lines 52-59 and figure 4), wherein the gain control is an obvious function for an inverter amplifier to control the gain of the opposite phase signal.

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Mourmeyster by implementing a anti-noise means via an

inverter amplifier for the purpose of inverting the noise signal of the input signal and generate signal opposite in phase to ensure optimal noise suppression as desired.

Regarding claim 21, Bourmeyster et al. (herein, Mourmeyster) discloses a device for suppressing background noise in a voice signal and corresponding system with echo cancellation. Mourmeyster's disclosure (figures 1-4, col. 4, lines 4-13, col. 7, lines 41-col. 8, lines 1-4) comprises a microphone (2), which reads an input transducer; a loudspeaker (4), which reads on an output actuator; a FD (frequency domain) processor (100), which reads on a correction means; a TD (time domain) processor, which reads on the echo cancellation means; a sampling circuit (col. 4, lines 14-58), and the microphone and loudspeaker are in close proximity to each other. Mourmeyster fails to specifically disclose a sampling rate of 1000 times or greater than the noise signal. It would have obvious to provide a such sampling rate to ensure efficient noise reduction as desired. Mourmeyster further fails to specifically disclose an anti-noise means.

Regarding the anti-noise means, in a similar field of endeavor, Bourk discloses noise cancellation which includes an anti-noise means via an inverter amplifier (col. 5, lines 52-59 and figure 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Mourmeyster by implementing a anti-noise means via an inverter amplifier for the purpose of inverting the noise signal of the input signal and generate signal opposite in phase to ensure optimal noise suppression as desired.

Regarding claim 23, Bourmeyster et al. (herein, Mourmeyster) discloses a device for suppressing background noise in a voice signal and corresponding system with echo

cancellation. Mourmeyster's disclosure (figures 1-4, col. 4, lines 4-13, col. 7, lines 41-col. 8, lines 1-4) comprises a microphone (2), which reads an input transducer; a loudspeaker (4), which reads on an output actuator; a FD (frequency domain) processor (100), which reads on a correction means; a TD (time domain) processor, which reads on the echo cancellation means; a sampling circuit (col . 4, lines 14-58) and the microphone and loudspeaker are in close proximity to each other. However, Mourmeyster fails to specifically disclose an anti-noise means.

Regarding the anti-noise means, in a similar field of endeavor, Bourk discloses noise cancellation, which includes an anti-noise means via an inverter amplifier (col. 5, lines 52-59 and figure 4).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to modify the invention of Mourmeyster by implementing a anti-noise means via an inverter amplifier for the purpose of inverting the noise signal of the input signal and generate signal opposite in phase to ensure optimal noise suppression as desired.

5. Claims 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 17-20 are allowed.

Response to Arguments

7. The applicant did not provide any arguments. Only remarks were made in respect to the cancelled claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura A Grier whose telephone number is (703) 306-4819. The examiner can normally be reached on Monday - Friday, 7:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Laura A. Grier
December 13, 2004